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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,651	07/13/2006	Michael Vossing	KMG-001	1665
52554 7590 11/10/2010 MONAHAN & MOSES, LLC 13-B W. WASHINGTON ST. GREENVILLE, SC 29601				
EXAMINER				
LEE, REBECCA Y				
ART UNIT		PAPER NUMBER		
1734				
MAIL DATE		DELIVERY MODE		
11/10/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,651

Applicant(s)

VOSSING ET AL.

Examiner

REBECCA LEE

Art Unit

1734

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-66, 69-72 and 79-103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63-66, 69-72 and 79-103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

Claims 1-62, 67-68 and 73-78 are cancelled. Claims 79-103 are newly added. Claims 63-66, 69-72 and 79-103 are pending where claim 63 has been amended in view of amendment filed 10/14/10.

Status of Previous Rejections

The previous rejections of claims 63-66 and 69-72 under 35 U.S.C. 103(a) have been maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 97 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The support of the recited composition of the precipitate would not be found in instant specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 63-66, 69-72 and 79-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen (US 5362321) in view of Cody et al. (US 4505886).

Regarding claims 63 and 79-88, Larsen teaches a method of reducing the soluble chromate content in cement comprising mixing the cement with iron(II) sulfate monohydrate precipitate (Column 9, lines 1-3, example 3 and table 3).

With respect to the limitation of "which is produced by concentrating ... from the obtained precipitate" recited in claim 63, and the limitations recited in claims 81-88, they are process limitations in product (iron(II) sulfate monohydrate precipitate) by process claims in terms of iron(II) sulfate monohydrate precipitate.

It is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, the burden falls upon the applicant to show that any process steps associated therewith results in a product materially different from that disclosed in the prior art. See *In re Thorpe*, (227 USPQ 964), *In re Brown*, (173 USPQ 685), *In re Fessman*, (180 USPQ 524) and MPEP 2113.

Larsen further teach the iron(II) sulfate monohydrate is prepared by drying iron(II) sulfate heptahydrate (Column 9, lines 1-3), but does not teach the claimed particle size or titanium content.

Cody et al. teach a process to obtain iron sulfate heptahydrate by crystallizing (precipitating) out iron sulfate heptahydrate from sulfuric acid (Column 4, lines 3-26). Before the crystallization, sulfuric acid is 10-35% by weight, the ferrous sulfate is 2-25% by weight and titanium is 5-25% by weight in the solution; after crystallization, the ferrous sulfate is 0-10% by weight, sulfuric acid is 10-40% by weight and titanium is 5-30% by weight in the solution. One of ordinary skill in the art at the time of invention would have expected the titanium content in the iron sulfate precipitate would be within the claimed range of 5-15% by weight base on iron.

It would have been obvious to one of ordinary skill in the art to use the ferrous sulfate heptahydrate made by Cody et al. in the drying step of Larsen in order to obtain sulfate monohydrate with expected success since Larsen do not require any specific made ferrous sulfate heptahydrate.

In addition, even the combined references do not expressly teach the claimed particle size, since ferrous sulfate monohydrate precipitate taught by Larsen in view of Cody et al. is significantly similar as claimed, one of ordinary skill in the art at the time of invention would have expected the precipitate of Larsen in view of Cody et al. to have the same or similar size as claimed.

Regarding claim 64, Larsen teaches the ferrous sulfate monohydrate added to the cement is 0.25 or 0.5% (table 3).

Regarding claim 65, Larsen teaches the reducing agent can be milled before adding to the powdered cement (Column 3, lines 32-37).

Regarding to claim 66, since Larsen in view of Cody et al. teach a process of reducing soluble chromate in cement that is significantly similar to the claimed process, one of ordinary skill in the art would have expected the same increasing reducing effect of the iron(II) sulfate-containing reducing agent increases at least temporarily as the storage time increases to be shown by the process of Larsen in view of Cody et al. as claimed.

Regarding claims 69 and 89-90, it is rejected mostly for the same reasons as set forth in the rejections of claim 63 above.

Larsen further teaches ferrous sulfate heptahydrate (green salt) can be used as a chromate reducing agent (Column 9, lines 4-5 and table 3).

It is well held that combining two components each of which is taught by the prior art to be useful for the same purpose is prima facie obviousness MPEP 2144.06. In the instant case, both ferrous sulfate monohydrate and ferrous sulfate heptahydrate can be used as a chromate reducing agent in cement, as taught by Larsen (Column 9, lines 1-5 and table 3). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to use a combination of ferrous sulfate heptahydrate (green salt) and ferrous sulfate monohydrate, in any ratio, including the claimed ratio of 1:1 to 2:1, in the process of Larsen in view of Cody et al. with expected success.

Claims 70-72, 91-96 and 98-103 are rejected for the same reasons as set forth in the rejections of claims 64-66 and 79-88 above.

Regarding claim 97, since Larsen in view of Cody et al. teach a substantially identical precipitate as instantly claimed (see claim 63 rejection above), one of ordinary skill in the art at the time of invention would have expected the precipitate of Larsen in view of Cody et al. to have substantially the same composition as instantly claimed.

Response to Arguments

Applicant's arguments filed 10/14/10 have been fully considered but they are not persuasive.

Applicant tries to establish unexpected results for the claimed ratio between iron(II) sulfate monohydrate and green salt of 1:1 to 2:1 by referring to the declaration filed for application 10569333. However, no data for the upper claimed limit of 2:1 is available. Examiner would like to remind applicant that to establish unexpected results over a claimed range, applicants should compare a sufficient number of tests both inside and outside the claimed range to show the criticality of the claimed range. In re Hill, 284 F.2d 955, 128 USPQ 197 (CCPA 1960) and MPEP 716.02(d). Since the proof of factual evidence is lacking in applicant's assertion of unexpected results, the examiner does not find the argument persuasive.

Applicant also tries to establish unexpected results for the claimed Ti content by referring to the declaration filed for application 10569333. However, as stated above, the precipitate of Larsen in view of Cody et al. appears to have overlapping Ti content as instant claimed, which would necessarily have the same or substantially the same properties as instant claims. In addition, the data present does not have sufficient

number of tests both inside and outside the claimed range to show the criticality of the claimed range, thus, applicant's argument is not found persuasive.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EMILY M. LE can be reached on (571)272-0903. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1734

/EMILY M LE/
Supervisory Patent Examiner, Art
Unit 1734